Re: Fw: Followup on 'in-cell macro encapsulation' question from OSWER IO

Dave Bartus to: Elaine Eby 06/07/2012 06:12 PM

Cc: Rick Albright, Lisa McArthur, Jeff Kenknight, Adam Baron, Scott Downey

Thanks kindly, Elaine. All of the assistance that you've provided on the many Hanford, INL and related issues has been invaluable and very much appreciated. You speak eloquently in the language of "One EPA."

One other issue that you may want to be aware of concerning in-trench treatment at Hanford. Among other arguments (like cost, worker radiation exposure and safety), Energy argues that their approach to in-trench treatment does not constitute "placement." Their rational for this position is that prior to performing in-trench macro-encapsulation, they typically cast a concrete pad within the landfill. Wastes to be treated in the landfill are then placed on the pad, and form work is then constructed around the waste containers. Finally, grout/concrete is poured around the containers. Energy's argument is that by placing waste containers to be treated on a concrete pad, the wastes are not "placed" on the land. They further argue that it makes no difference whether the concrete pad is within a landfill, or within a container storage/treatment unit - there is no difference in terms of placement. In other words, Energy is arguing that placement of an untreated container of hazardous waste on a concrete pad within a landfill is no different than placing the same container on the concrete base of a container storage unit - neither constitutes "placement" in the context of the requirement to meet LDR treatment requirements prior to placement of the container on the concrete pad, regardless of whether the concrete pad is in a landfill or a container storage unit. Under this "model," Energy would argue that waste containers placed on a concrete pad within a landfill are being stored, not disposed, until completion of macro-encapsulation, at which time Energy would then consider the containers to be disposed of.

Of course, in constructing this model, Energy is relying on only the beginning words of the definition of "land disposal" at 268.2(c), which reads "*Land disposal* means placement in or on the land...," conveniently ignoring the rest of the definition, which includes the text "....and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, ..."

The various cc's are management, program and enforcement folks with interest in what's happening in DC on this issue.

Dave

Elaine Eby | Dave- This is the note our DOD is sending to th... | 06/07/2012 09:48:54 AM

From: Elaine Eby/DC/USEPA/US
To: Dave Bartus/R10/USEPA/US@EPA,
Date: 06/07/2012 09:48 AM
Subject: Fw: Followup on 'in-cell macro encapsulation' question from OSWER IO

Dave-
This is the note our DOD is sending to the IO. (I guess that's the AA's office).
Many, many thanks to you for writing such eloquent emails that made this summary so easy!!
Have a great day!!

Elaine Eby
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----- Forwarded by Elaine Eby/DC/USEPA/US on 06/07/2012 12:47 PM -----

From: Sandra Connors/DC/USEPA/US
To: Ross Elliott/DC/USEPA/US@EPA
Cc: Betsy Devlin/DC/USEPA/US@EPA, Elaine Eby/DC/USEPA/US@EPA, ORCR IO, Richard Robinson/DC/USEPA/US@EPA
Date: 06/07/2012 12:41 PM
Subject: Re: Followup on 'in-cell macro encapsulation' question from OSWER IO

Excellent summary. I'll share and let you know if any follow-up needed.
Sandra

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Ross Elliott | Sandra, in response to your email, Elaine provid... | 06/07/2012 09:01:07 AM

From: Ross Elliott/DC/USEPA/US
To: ORCR IO
Cc: Betsy Devlin/DC/USEPA/US@EPA, Richard Robinson/DC/USEPA/US@EPA, Elaine Eby/DC/USEPA/US@EPA
Date: 06/07/2012 09:01 AM
Subject: Followup on 'in-cell macro encapsulation' question from OSWER IO

Sandra, in response to your email, Elaine provided a summary (below). We can discuss if you have any questions.

The OSWER I/O got a call about whether EPA has a new policy regarding stopping all "in-cell macro encapsulation"? Apparently this is came up in relation to the Hanford site but has also been heard from a contact at US Ecology in Beatty, NV (in Region 9). While this may not be our issue specifically, can our FF folks provide any insight and check with R10/R9, FFRRO, or OSRTI see what they can find out so we can provide some feedback to the IO?

History of the "In-trench Treatment" Communications with Region X Regarding DOE Hanford Facility

In May 2011, Region 10 staff communicated with LDR staff in ORCR and OECA that they had been dealing with an issue at the Department of Energy's Hanford facility that they would like input on. It seems for the past year or two, Region X had been looking at a practice on the part of the Department of Energy, Richland Operations Office known as "in-trench treatment." As presented to HQ, Hanford has two RCRA mixed waste disposal trenches which receive a variety of low-level and mixed low-level wastes. A number of these wastes have sufficient radiological activity that DOE has determined that the disposal containers must be grouted within the landfill (instead of soil covering). For containers containing mixed debris subject to LDR, DOE generally elects to apply the debris rule treatment standard of

macroencapsulation for the waste. The issue that Region X ran into is that DOE is placing these containers in the disposal unit prior to macroencapsulation, then grouting the containers within the land disposal unit, arguing that post-disposal grouting satisfies the macroencapsulation requirement. Historically, DOE has attempted to rationalize placement of un-treated wastes in a land disposal unit by saying that the wastes are being "Stored" until "in-trench treatment" has been completed, at which time the wastes are no longer being stored, but are disposed of. Region X stated that they could find no provisions in federal or authorized state regulations authorizing storage of untreated wastes in a land disposal unit as a means of avoiding LDR treatment standards.

Staff from Region X did provide the Washington State Department of Ecology (the authorized state) with a regulatory interpretation of the "in-trench treatment" process via email, that wastes subject to LDR treatment standards cannot be land disposed of unless applicable treatment standards have been met. Despite this regulatory interpretation, DOE continued to practice "in-trench treatment," and proposed validating "in-trench treatment" through a site-specific treatability variance.

As an additional piece of information, Region X informed HQ staff that earlier this year (2011), NEIC conducted an extensive on-site inspection where this issue came up, and "NEIC inspectors eye-brows were raised when they observed untreated wastes within a land disposal unit undergoing "in-trench treatment.""

One of the arguments made to retain this practice is some of the waste containers that DOE manages are sufficiently large that it is impractical to macroencapsulate the wastes prior to placement in a land disposal unit, then move the grouted or macroencapsulated waste into the land disposal unit. However, Region X said that recently, they had come across an engineering analysis prepared several years ago that clearly demonstrates that DOE has transport and lifting equipment capable of managing very substantial containers, so the technical impracticability issue doesn't carry much weight (so to speak) in staff's mind.

Staff at Region X had requested ORCR to validate their interpretation of the LDR requirement that LDR treatment standards must be met prior to placement in a land disposal unit, and that performing treatment to meet LDR treatment standards following placement in a land disposal unit was not permitted under the requirements of 40 CFR 268 Subpart C.

ORCR staff, in consultation with OECA staff, stated that they agreed with Regions X's interpretation and provided supporting documentation from EPA training documents, publications and preamble. Staff did note, however, LDR exceptions for remediation waste and surface impoundments that did not, however, seem relevant to Hanford's in-trench treatment issue.

In February 2012, Region X staff provided ORCR staff with the following information, "...finished a short briefing for both our regional RCRA and CERCLA office directors concerning the Hanford in-trench treatment issue. In very general terms, we are all in agreement that authorized state permitting of this practice is not acceptable. However, we recognized that there are some very legitimate technical practicability and risk balancing issues that still need to be sorted out for managing the wide range of wastes that are generated at Hanford. In acknowledging these issues, we feel that they are best addressed through CERCLA, which has at least some waiver tools that can be applied, unlike RCRA."

Today, in response to the idea of a new EPA policy "stopping all in-cell treatment", Region X staff responded, "...absolutely no, we have no "new" policy regarding stopping all "in-trench macro encapsulation." At least from a Region 10 perspective, we may not have addressed this action through enforcement action at an earlier point in time, but we have a clear written record of interaction with the Washington State Department of Ecology, Nuclear Waste Program that this practice is not legal with respect to requirements of Ecology's authorized RCRA/dangerous waste program."

Conversation with Region 9 Regarding Possible Treatment Variance and In -trench Treatment

In May, 2012, ORCR staff received a call from Region 9 staff regarding a possible treatment variance for a facility in Texas (Waste Control Specialists). Region 9 was seeking guidance on the delegation authority for LDR treatment variances (typically LDR variances are picked up by the authorized state,

however there are still states that do not have this authorization and as such EPA must evaluate and issue these variances.)

Region 9 had been contacted by a facility in Texas requesting a treatment variance to conduct "in-cell macroencapsulation" at their facility. The facility stated that they have a competitor in Utah, Energy Solutions, that has received a variance similar to the one they are going to request. The State of Texas told the facility that they might have to submit a "no-migration" petition in addition to the variance.

HQ staff responded with guidance to Region 9 on LDR treatment variances, but noted that LDRs treatment variances do not provide for treatment within a landfill. HQ staff also informed Region 9 of its conversations with Region X on a similar "in-trench" treatment and reiterated that waste must be treated to the LDR treatment standards prior to disposal. Staff also communicated with Region X relaying this information.

Shortly thereafter, an attorney representing the facility contacted HQ staff, staff reiterated the information conveyed to Region 9 (except for Hanford).

In-Trench Treatment Permitted at EnergySolutions Facility in Utah Via MACRO vaults

The Agency has recently become aware (information provided by Region X) of a facility, EnergySolutions located in Utah, permitted by the state (permit dating from 2004) to conduct in-trench treatment, the specific example is use of MACRO vaults (i.e., "Vaults may be constructed directly in the Mixed Waste Landfill Cell in accordance with the applicable requirements of this Attachment."). Contrary to the information conveyed by the Texas facility, this is not a treatment variance but part of their Part B permit.

To date, ORCR staff have not been asked to opine on this practice at this facility given that the permit was issued by an authorized state almost ten years ago, however staff would be inclined to argue that this practice, given the limited information available, would not be consistent with the LDR regulatory requirements as they are currently understood. Region X staff also appears to agree, and have stated to ORCR staff that, "while a Utah-issued permit does not create a regulatory basis where one does not otherwise exist, Region 10 will still be asked to account for apparent inconsistencies between our oversight of Washington State and practices elsewhere."